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(21) International Application Number: PCT/GB99/04228 (22) International Filing Date: 14 December 1999 (14.12.99) (30) Priority Data: 60/112,114 14 December 1998 (14.12.98) US (71) Applicants (for all designated States except US): MEDICAL RESEARCH COUNCIL [GB/GB]; 20 Park Crescent, London W1N 4AL (GB). THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th Floor, Oakland, CA 94602-5200 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): THORNER, Jeremy, William [US/US]; 701 Arlington Avenue, Berkeley, CA 94707-1633 (US). ALESSI, Dario, Renato [GB/GB]; 309 Perth Road, Dundee DD2 1LG (GB). TORRANCE, Pamela, Diane [US/US]; 1814 Hearst Avenue #D, Berkeley, CA 94703 (US). CASAMAYOR, Antonio [ES/US]; 91 Clark Street, New Haven, CT 06511 (US). (74) Agent: MILES, John, S.; Eric Potter Clarkson, Park View House, 58 The Ropewalk, Nottingham NG1 5DD (GB).		(81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>Without international search report and to be republished upon receipt of that report.</i>

(54) Title: SCREENING METHODS

PDK1	84	FGKILGEGSFSTVVLAVELATSRREYAIRKILEKRIIRKVPVTRERDVPRLL-ETPFVKLYPTFQDDNLYFCDSYAK	163
DSTPK61	164	FGRIICGGSYSVVLAVDIESRREYAIRKVEKILIRRKDYLRERERVROMTHVPGFVNLSCFQDDNLYFVVMYAK	244
Pkh1	127	FGICLGDSYSVVLATARDSEYAVKVLSEKYLIRCKKVKYVVERLLOKLNCTKCTKLFPTFQDEASLYFLLEYAP	207
Pkh2	181	FGVIGDGAYSTVMLATSIDTKKAYAKVLSEKYLIRCKKVKYVVERLLOKLNCTKCTKLFPTFQDEASLYFLLEYAP	261
PDK1	164	NGELKXIRKICSDETCARFYANIVSALEYLHKGIIHRDLKPENILLNEDMHICITDFGTAKVLS	231
DSTPK61	245	NGDLPPYINRVGSEVZCTARFYAALLACSEMHNRVVRDLKPENILLNEDMHITLIDFGSAKVNTAHERALATERCSE	325
Pkh1	208	EGDFLGLIKKYGSNETCARYYASCIIDAVDELHNTGIIHRDIKPENILLNEMKVKLTDFGTAKILFE	276
Pkh2	262	NGDFLSIMKKYGSDETCARYYACIIDAYDLHSGIIHRDIKPENILLNEMKIRLTDFGTAKLLN	329
PDK1	232	-----PESKO-----ARASFGVGTACVSPPELLDASACKS	262
DSTPK61	326	ORRSHSDEDDSDRLNKKEDKFTDRDSEELDDRDDEQQEEDSPRRERQRYRERKASFGVGTACVSPVELONGPITPA	406
Pkh1	277	-----EPSNADCEFPDLYAKSKSFGVGTACVSPPELLNDYTLER	317
Pkh2	330	-----PTNHSVSKYFDLSTRKSKSFGVGTACVSPPELLNDFTDR	369
PDK1	263	SDLWAGCIIYQLVAGPPFFRAGNEYLFQKIIRKLEYDFYDFPZARDLVKLLVDATRLGCEETGTOP-LRAHPF	341
DSTPK61	407	ADLWAGCIVYOHACPPFRGNDYVFEKILDCAVDFCGFDICADLVKLLVDPRDLGACDNGYTEIRAHPF	486
Pkh1	318	CDIWAAGCIIYQLVAGPPFFRAGNEYLFQKVHKIQYFAGFPOLVKDLVKKLLVDPRDL-----TIQIKAHPF	390
Pkh2	370	CDIWAAGCIIYQLVAGPPFFRAGNEYLFQKVMKVOYFPGFPIIRDLVKKILVAGDRL-----TISQIKHFF	442

(57) Abstract

A method of identifying a compound which inhibits to different extents (a) a host yeast cell protein kinase or kinases and (b) a protein kinase derivable from a source other than the said host yeast cell that is equivalent to the said host yeast cell protein kinase or kinases, wherein a compound is exposed to 1) a first host yeast cell wherein the yeast cell is capable of expressing the said host yeast cell protein kinase or kinases and is not capable of expressing the said equivalent protein kinase and 2) a second host yeast cell wherein the yeast cell is (a) not capable of expressing the said yeast cell protein kinase or kinases and (b) is capable of expressing the said equivalent protein kinase derivable from a source other than the host yeast cell and the effect of the compound on the viability of the said yeast cells is measured, and a compound that affects the viability of the first said yeast cell and the said second yeast cell differently, is identified. The method may be useful in a screen for identifying compounds that inhibit a mammalian or fungal protein kinase. The compounds may be useful in medicine.

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